

# Project Description

## I-69 New Interchange at Union Chapel Road

### Allen County

Project No.: 0902222

Des. No.: 0902222

#### Project Location:

This project is the construction of a new interchange at Union Chapel Road and I-69. It begins approximately 2,300 feet south of Union Chapel Road (RP 117+0.23) and extends approximately 2,400 ft north of Union Chapel Road along I-69. The project is located in Section 26, Township 32 North, Range 12 East, Perry Township, Allen County, Indiana.

#### Project Need and Purpose:

The purpose of this project is to provide additional access to and from I-69 in northern Allen County. Presently, the SR 1/Dupont Road interchange is the sole access point for the residents of north Fort Wayne and northern Allen County. This area of the county has had substantial commercial and residential growth in the past ten years, resulting in large traffic volume increases. Traffic modeling has revealed that the current east/west movement along SR 1/Dupont Road, the northbound exit from I-69, and the southbound entrance onto I-69 are operating at substandard Levels of Service (LOS). Residential and commercial development is anticipated to continue to grow in this area over the next twenty years, adding to the volumes of traffic moving through this region.

A specific example is the Parkview Regional Medical Center which is currently under construction in the northeast quadrant of the SR 1/Dupont Road interchange. This facility is projected to add 4,000 vehicles per day to I-69.

Initial traffic analysis has indicated construction of a new interchange on I-69 would not solely reduce the congestion issues at the SR 1/Dupont Road interchange. It will be necessary to make improvements to the existing interchange to bring the LOS to an acceptable level. Therefore an interchange modification project (Des. No. 0901298) is in the planning and design phase under INDOT's directive.

The proposed interchange at Union Chapel Road will reduce the congestion at the SR 1/Dupont Road interchange on I-69 and will provide better local and regional movement throughout northern Fort Wayne and its outlying communities.

#### Existing Facility:

Existing Union Chapel Road consists of one 14' lane eastbound and one 14' lane westbound with no usable shoulders. The posted speed limit is 45 mph. Union Chapel road passes over I-69 via a four-span, reinforced concrete girder structure built in 1959. The existing structure is approximately 213 ft in length and 29 ft wide. The existing vertical clearance for I-69 is 16 ft.

I-69 is a four-lane interstate with two, 12 ft. lanes northbound and two, 12 ft. lanes southbound. A 60 ft. grass median with 4 ft. paved inside shoulders separates the directions of travel. The outside shoulders are 8 ft. paved. The existing limited-access right-of-way is 200 ft. wide, 100 ft on either side.

#### Traffic Data:

Traffic estimates for the build year (2012) are estimated to be 5,817 vehicles per day (vpd) along Union Chapel Road and 37,150 vpd along I-69. Forecasts for 2032 estimate 25,690 vpd along Union Chapel Road and 44,390 vpd along I-69. Trucks will comprise 28.5% of the vehicles along I-69 and 6% of the vehicles along Union Chapel Road.

#### Identification of Proposal:

Three interchange configurations were considered for this project: a tight diamond interchange, a modified folded diamond interchange, and a roundabout interchange. Right-of-way impacts, environmental impacts, and construction costs were compared for the three configurations.

The modified folded diamond option was a typical diamond interchange on the east side of I-69 but was a folded diamond interchange in the northwest quadrant. This option had large right-of-way and environmental impacts, especially in the northwest quadrant, a wooded area with an Unnamed Tributary to Ely Run. An estimated 6 residences would be displaced. The tight diamond interchange was a typical diamond interchange with ramp termini spaced about 400' apart. The roundabout interchange option was a typical diamond interchange with roundabouts at either of the ramp termini. The tight diamond interchange and the roundabout interchange had comparable right-of-way and environmental impacts with approximately five residential relocations each. However, the roundabout interchange was estimated to be nearly \$700,000 less to construct than the tight diamond interchange.

The proposed design consists of the reconstruction of Union Chapel Road over I-69 with two roundabouts, one at each of the ramp termini. Work along I-69 will consist of gore area construction, ramp acceleration/deceleration lane construction, and re-grading within the interchange.

#### Cost Estimate:

The construction cost of the proposed roundabout interchange at I-69 and Union Chapel Road is estimated to be approximately \$16.1 million.

#### Environmental Issues:

Small areas with wetland characteristics have been identified in the northeast and southeast quadrants; however these areas are not mapped by the National Wetland Inventory. These areas are both located near Unnamed Tributaries to Ely Run.

There are two Unnamed Tributaries to Ely Run within the project limits. A small portion of the flood plain for the northern tributary is within the project limits. Construction within the channels of these two tributaries will be minimal and consists of extending the existing structures to daylight at the new fill slopes.

Based upon information provided in the National and Stage Registers of Historic Places, there are no listed or eligible locations in the immediate vicinity of the project.

#### Right-of-Way Impact:

New proposed right-of-way will be necessary along Union Chapel Road and along the ramps to I-69. Approximately 16.4 acres of permanent right-of-way will be necessary. Of this, 6.2 acres are residential, 0.5 acres are commercial, 4.1 acres are agricultural, and the remaining 5.6 acres are currently owned by the Parkview Regional Medical Center. Five residences are anticipated to be relocated, two in the northwest quadrant, and two in the southwest quadrant. These right-of-way estimates are subject to change as the proposed design advances.

#### Traffic Maintenance During Construction:

The proposed interchange is anticipated to be constructed in two phases, half at a time. During Phase 1, the existing bridge over I-69 shall be used to maintain traffic while a portion of the proposed bridge is constructed north of the existing structure. Phase 2 will shift traffic onto the newly constructed bridge section and will complete construction on the remaining portions of the project. During both phases of construction, one lane in each direction shall be maintained along Union Chapel Road and two lanes in either direction shall be maintained along I-69.

Concurrence:

Please sign on the line below indicating your concurrence.

Louis E. Feagans

Louis Feagans  
INDOT Project Management Supervisor

8-31-10

Date